

**REMARKS**

In the present Amendment, independent claims 1, 4, 7 and 10 are amended for purposes of clarity. This Amendment is directed to form only.

Claim 2 is amended to replace the word “contains” with the word “containing.”

Claim 4 is further amended to recite that “n is a positive integer” in formula (2). Support for the Amendment may be found, for example, in the present specification at page 12, lines 9-10.

No new matter is added, and entry of the Amendment is respectfully requested. After entry of the Amendment, claims 1-12 will be pending.

**I. Response to the Examiner’s Claim Objections**

On page 2 of the Action, claims 1-12 are objected to because the independent claims have a period before the formulae that separates the claims into separate parts/sentences.

Applicants believe the amendments to claims 1, 4, 7 and 10 address the Examiner’s concerns and therefore request withdrawal of the objection.

**II. Response to the Examiner’s Claim Rejections**

**A. The Present Claims are Not Indefinite**

On page 3 of the Action, claims 4-6 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

The Examiner stated that the variable “n is not defined.”

Without conceding in the merits of the rejection, as noted above, claim 4 is amended to recite that “n is a positive integer.” Claims 5 and 6 depend from claim 4. Thus, it is respectfully

submitted that claims 4-6 are definite and that one of ordinary skill in the art would understand the scope and meaning of the claim.

In view of the above, reconsideration and withdrawal of the rejection of claims 4-6 under § 112, second paragraph, are respectfully requested.

**B. The Present Claims are Patentable Over Nakahara**

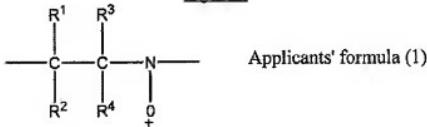
On page 3 of the Action, claims 1-12 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 02/082570 to Nakahara et al.

Applicants respectfully traverse.

Nakahara does not anticipate or render obvious the secondary battery recited by the present claims.

Generally speaking, each of independent claims 1, 4, 7 and 10 recite a secondary battery having a polymer having a structure derived from a repeating unit represented by formula (1) or a polymer represented by formula (2).

Figure 1



Referring to Applicants' formula (1), R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> each independently represents:

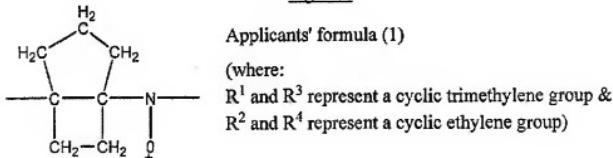
- (1) a hydrogen atom;
- (2) a substituted or unsubstituted alkyl group;
- (3) a substituted or unsubstituted aromatic hydrocarbon;

(4) a substituted or unsubstituted hetroaromatic group;  
(5) a halogen atom; or  
(6) an alkylene group that may be coupled to at least one or both of R1 and R3, and R2 and R4, to form a ring. See the present specification at page 4, lines 3-8. Formula (2) of the present invention represents a Polymer having repeating units represented by formula (1).

Applicants point out that in formula (1) and formula (2), the nitrogen (N) atom of the nitroxyl group (NO) is on the polymer backbone, i.e., it is not a pendant group (i.e., side group or side chain).

With regard to the alkylene group that may form a ring (6), Applicants point out that the alkylene group forms a ring structure containing both the R<sup>1</sup> and R<sup>3</sup> group and/or the R<sup>2</sup> and R<sup>4</sup> group. In more detail, Figure 2 shows one possible embodiment of Applicants' formula (1), where, for example, R1 and R3 form a ring structure *and* R2 and R4 form a ring structure. Note that the nitrogen of the nitroxyl group is still on the polymer backbone.

Figure 2



In contrast, Nakahara discloses an annular (i.e., ring structure) nitroxyl structure represented by the general formula (Ia). See Figure 3, below. In Nakahara's formula (Ia), X may be, for example, -CH<sub>2</sub>CH<sub>2</sub>- , -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>- and -CH=CH-. See Nakahara at [0019]. Further, Nakahara's annular nitroxyl structure represented by formula (Ia) is a pendant group

(i.e., a side group or chain) in the polymer disclosed by Nakahara that is represented by formula (Ic). See Nakahara at [0028].

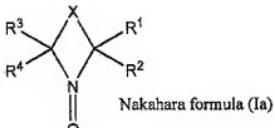
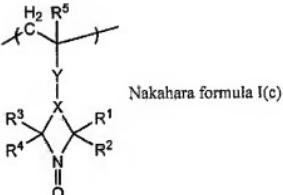
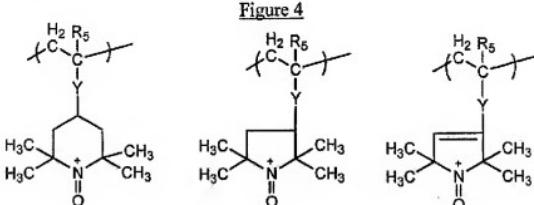


Figure 3



The ring structure of Nakahara's formula (Ia) is completely different from the linear structure of Applicants' formula (1) and (2). For example, the nitrogen (N) atom of the nitroxyl group (NO) is not on the polymer backbone. Instead, the nitroxyl group (NO) is part of an annular side group.

For further illustration, Applicants direct the Examiner's attention to Figure 4, below, illustrating the embodiments of Nakahara's formula (Ic) shown on page 8 of Nakahara (i.e., the various formulae pointed out by the Examiner).



Applicants submit that a comparison of Figure 4 -- showing the structure of Nakahara's formula (Ic) -- to Figure 2 above -- showing an embodiment of Applicants' formula (1) and (2)

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(when R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> each form a ring structure) -- clearly demonstrates that the structure of Nakahara's repeating group is different from Applicants' repeating group.

Accordingly, Applicants respectfully submit that claims 1-12 are not anticipated by Nakahara, and request withdrawal of the § 102(b) rejection of claims 1-12 based on Nakahara.

**C. The Present Claims are Patentable over Sato**

On page 4 of the Action, claims 1-12 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Laid-Open Patent Publication No. 2002-117854 to Sato et al.

Applicants respectfully traverse.

Sato does not anticipate or render obvious the secondary battery recited by the present claims.

As noted above, Applicants recite in independent claims 1, 4, 7 and 10 a polymer having a repeating unit represented by formula (1) or a polymer represented by formula (2). Further, as can be seen in Figures 1 and 2 above, the polymer derived from the repeating unit represented by formula (1) has a nitroxyl group (NO) on the polymer backbone.

Turning to Sato, the Examiner points out the various formulae disclosed in paragraphs [0034] and [0036] of Sato.

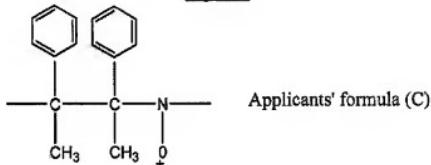
However, not one of Sato's general formulas (3) to (19) are within the scope of formula (1) or (2) of the present claims. See Sato at [0034] and [0036].

For example, Sato's formula (3) is different since there is an aromatic group in the polymer backbone, which is not within the scope of formula (1) or (2) of the present claims. In each of formulas (4) to (11) there is no nitrogen (N) atom that is part of a nitroxyl group on the

polymer backbone, as is required by Applicants' formula (1) and (2).

With respect to each of formulas (12) to (19), none of these formulae anticipate the structural unit represented by Applicants' formula (1) or (2). For example, Applicants kindly direct the Examiner's attention to Applicants' formula (C) of Embodiment 3 in the present specification. See the present specification at pages 22-23 and Figure 5, below.

Figure 5



Accordingly, Applicants respectfully submit that the present claims are not anticipated by, or obvious in view of, Sato, and request reconsideration and withdrawal of the § 102(b) rejection of claims 1-12 based on Sato.

### **III. Conclusion**

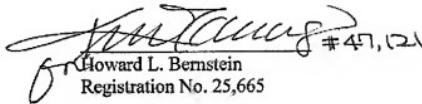
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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